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Abstract Title: Tropospheric Emission Spectrometer and Airborne Emission Spectrometer

Author Listing: Thomas Glavich
Jet Propulsion Laboratory
4800 Oak Grove Drive
306-438
Pasadena, CA 91009
Phone: (81 8)-354-3952
Fax: (818)-393-4053
Email: Thomas. .Glavich@jpl.nasa.gov

Reinhard Beer
Jet Propulsion Laboratory
4800 Oak Grove Drive
183-301
Pasadena, CA 91009
Phone: (818)-354-4748
Email: Beer@caesar.jpl.nasa.gov

Oral Presentation Preferred

Abstract

The Tropospheric Emission Spectrometer (TES) is an instrument being developed for the NASA Earth Observing System Chemistry Platform. TES will measure the distribution of ozone and its precursors in the lower atmosphere, on a global scale, beginning in 2002, and continuing for 5 years. The instrument is an imaging Fourier Transform Spectrometer, covering the spectral range from 2.3 to 15.4 microns, and with a limiting spectral resolution of 0.025 cm-1. The paper will describe the instrument design, technology challenges, and implementation.

The Airborne Emission Spectrometer (AES) is an aircraft precursor to TES. This instrument was completed in 1994, and has collected data on lower atmospheric chemical species in a number of flights. The instrument and its operations will be described, and early flight data will be shown. AES is also an imaging infrared Fourier Transform Spectrometer, and covers the same spectral range as TES.